

## **REMARKS/ARGUMENTS**

Reconsideration and withdrawal of the rejections of the application are respectfully requested in view of the amendments and remarks herewith, which place the application into condition for allowance. The present response is being made to facilitate prosecution of the application.

### **I. STATUS OF THE CLAIMS AND FORMAL MATTERS**

Claims 1-13 and 23-29 and 31 are pending in this application. Claims 33, 35 and 36 are amended without prejudice hereby. Support can be found throughout the specification, exemplary portions of which are given below.

Claim 36 is objected to for informalities. Claims 34 and 36 are rejected under 35 U.S.C. §112 first paragraph as allegedly lacking written description. Claims 1-2, 4, 6-8, 13, 23, 25-27, and 31-36 are rejected under 35 U.S.C. §112, second paragraph for allegedly being indefinite. Claims 1-2, 4, 6, 13, 23, 25-27, 31, and 33-36 are rejected under 35 U.S.C. §102 or §103 over International Pat. Pub. No. WO 01/25522 to Noelle ("Noelle"); U.S. Pat. Pub 2002/01606851 is cited for the translation. Claims 23, 25-27, 31, 32 and 35-36 are rejected under 35 U.S.C. §102 or §103 over U.S. Pat. No. 5,857,497 to Gassier ("Gassier"). Claims 1-2, 4, 6, 13, 23, 25-27, 31, and 33-36 are rejected under 35 U.S.C. §102 or §103 over U.S. Pat. No. 6,074,966 to Zlatkus ("Zlatkus"). Claims 2-4, 6-8, 13 and 32-36 are rejected under 35 U.S.C. §103 over Noelle in view of Gassier. Claims 1-2, 4, 6, 13, 23, 25-27, 31, and 33-36 are rejected under 35 U.S.C. §103 over Gassier in view of International Pat. Pub. No. WO 01/88261 to Strandqvist ("Strandqvist"). Claims 2-4, 6-8, 13 and 32-36 are rejected under 35 U.S.C. §103 over Zlatkus in view of Gassier. Claims 1-2, 4, 6, 13, 23, 25-27, 31, and

33-36 are rejected under 35 U.S.C. §103 over Strandqvist in view of U.S. Pat. No. 3, 790,438 to Lewis ("Lewis"). Claims 1-2, 4, 6, 13, 23, 25-27, 31, and 33-36 are rejected under 35 U.S.C. § 103(a) over U.S. Patent No. 5,142,752 to Greenway ("Greenway") in view of either Noelle, Zlatkus, or U.S. Pat. No. 5,915,422 to Fagerholm ("Fagerholm"). Claims 2-4, 6-8, 13 and 32-36 are rejected under 35 U.S.C. §103 over Greenway in view of either Noelle, Zlatkus, of Fagerholm, and further in view of Gassier. Claims 23, 25-27 and 31 are rejected under 35 USC § 103 (a) over U.S. Patent No. 5,883,022 to Elsener ("Elsener") in view of any one of U.S. Patent No. 3,884,630 to Schwartz ("Schwartz") or U.S. Patent No. 4,104,814 to Whight ("Whight"). For the reasons given below, Applicants traverse and respectfully request reconsideration and withdrawal of the rejections.

## **II. THE OBJECTION TO CLAIM 33 IS OBIATED**

Claim 33 is objected to for informalities. Applicants have amended the claim in accord with the Examiner's suggestion, for which the Applicants thank the Examiner. Applicants request reconsideration and withdrawal of the objection.

## **III. THE CLAIMS ARE PATENTABLE UNDER 35 USC §112**

Claims 34 and 36 are rejected under 35 U.S.C. §112 first paragraph as allegedly lacking written description. At page 3 the Office Action alleges that the recitation of "200 psi" lacks written description support. As was discussed during the prior interview, and explained in the prior response: column 2 line 25 to column 4, line 3 of U.S. Patent 6,163,943 (the '943 patent") is incorporated by reference at paragraph 12 of the published application. The '943 patent in turn refers to CA patent no 841,938 (see'943

patent at col. 3, lines 54-56). Applicants also submitted U.S. 4,967,456, of record in the present application. **The evidence shows that hydroentangling apparatuses “jetting water supplied at pressures of 200 to 2000 pounds per square inch (psi).” CA 841,938. (See also US 4,967,456: “First and second stage enhancement is preferably effected by columnar fluid jets which impact the fabric at pressures within the range of 200 to 3000 psi and impart a total energy to the fabric of approximately 0.10 to 2.0 hp-hr/lb.”)**

Applicants also noted that that as such properties are well known, stating.

As explained in the Background of ‘943 Patent “Hydroentangling or spunlacing is a technique introduced during the 1970'ies [sic], see e g CA patent no. 841 938.” Hence there is ample support for the amendments with respect to such properties with or without incorporating the above-noted documents by reference into the present specification. ( See *Falkner v. Inglis*, 79 USPQ2d 1001 (Fed. Cir. 2006), showing the recitation of known structure is not required under 112, and indeed, such recitation is disfavored: “Indeed, the forced recitation of known sequences in patent disclosures would only add unnecessary bulk to the specification. Accordingly we hold that where, as in this case, accessible literature sources clearly provided, as of the relevant date, [claimed structure], satisfaction of the written description requirement does not require either the recitation or incorporation by reference.”)

The Office Action fails to acknowledge this support or answer this evidence in proffering the rejection. In view of the overwhelming evidence of the specification and the record, Applicants request reconsideration and withdrawal of the rejection. If the Office disagrees, Applicants request that, in compliance with MPEP 707(f), the next Office Action set forth what facts it is relying on to support the rejection in the face of this evidence of record.

Claims 1-2, 4, 6-8, 13, 23, 25-27, and 31-36 are rejected under 35 U.S.C. §112, second paragraph for allegedly being indefinite. At page 3, the Office Action alleges the recitation is indefinite, citing as an example variables of time and pressure. As explained in the prior response, ordinarily skilled artisans are well aware of the mechanical properties and structural strength required for reflecting liquid jetted from a hydroentangling apparatus, and the claims cover this. Again, **the evidence shows that hydroentangling apparatuses “jetting water supplied at pressures of 200 to 2000 pounds per square inch (psi).” CA 841,938. (See also US 4,967,456: “First and second stage enhancement is preferably effected by columnar fluid jets which impact the fabric at pressures within the range of 200 to 3000 psi and impart a total energy to the fabric of approximately 0.10 to 2.0 hp-hr/lb.”)**. Applicants are not claiming a particular combination of variables, nor is this required by law.

Applicants also note that in the spirit of advancing prosecution, Applicants added new claims 33 and 35 which positively recite that the water from a hydroentangling apparatus is at a pressure of at least about 200psi. Thus these claims expressly recite the feature. Rejection of such a recitation as indefinite is in error.

At page 3 of the Office Action, the Office Action rejects claims 33 and 35 for being in a Markush format, citing the reference to properties where the flat filament is not present. The Office Action states: “[I]t is not clear if some or all or none of the other variables are the same. For example, materials, structure, element size, and or/density.” As referred to in the prior response, the claims clearly recite a number of mechanical and structural properties, all of which described in the specification, which expressly claim the unexpected advantages and superior properties of the claimed flat

filaments in hydroentangling support fabrics. Applicants urge that they are amply clear to an ordinarily skilled artisan, and the Office Action's reference to "other variables" are not required, nor even germane to, the definiteness requirement of 112. The Office Action also requires "positively identifying the non-flat shapes." This is tantamount to saying the term "flat filaments" is unclear, as the claims recite "without said flat filaments" or "non-flat filaments." It would be less, not more clear, to recite a long list of non-flat filament shapes, and indeed such a recitation is disfavored. Applicants thus request reconsideration and withdrawal of the rejections.

Regarding the rejection of claims 33 and 35 over the recitation "the thickness T," Applicants have amended the claim to adopt the Examiner's suggestion, for which Applicants thank the Examiner. Applicants respectfully request reconsideration and withdrawal of the rejections.

#### **IV. THE CLAIMS ARE PATENTABLE OVER NOELLE**

Claims 1-2, 4, 6, 13, 23, 25-27, 31, and 33-36 are rejected under §102 or §103 over Noelle. The claims recite: "a hydroentangling support fabric having the mechanical properties and structural strength to reflect liquid jetted from the hydroentangling apparatus and comprising flat filaments, wherein said support fabric is in a continuous loop or made endless."

The Office Action cites Figure 2, paragraph [0092] against the above-cited recitation. The cited section, however, shows the fabric is not a support fabric. Noelle states:

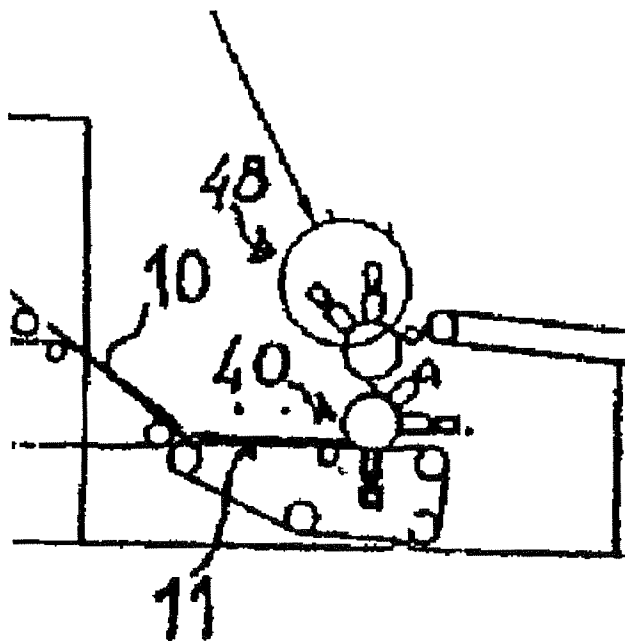
[0091] The web thus compacted and wetted is subjected to the action of two hydraulic injectors projecting water jets with a diameter of 120 microns at increasing velocities of 78

and 94 m/s, the water jets being spaced 1.2 mm from one another.

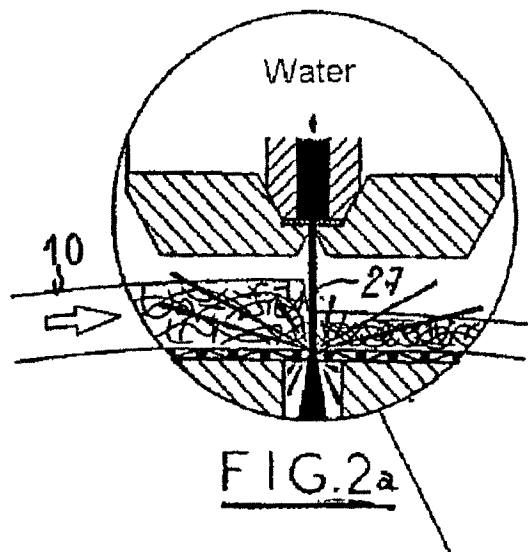
[0092] The web is then introduced to the assembly designated by the general reference ( 48 ), which comprises a **second cylinder covered with a coarse cloth** consisting of 9 wires per centimeter, made of bronze, with a rectangular cross section with sides of 0.3 mm by 6.64 mm in the warp direction and of 9 wires per centimeter, likewise made of bronze, with a diameter of 0.46 mm in the weft direction.

[0093] Two hydraulic injectors are arranged above this **cylinder**. They project onto the web water jets with a diameter of 120 microns at velocities of 100 m/s, the jets being spaced 0.5 mm from one another.

Emphasis added. The Figure shows the “second cylinder 48” as follows:



And in close up as follows:



As the figures show, the fabric is not a support fabric in a continuous loop or made endless, which an ordinarily skilled artisan would understand to be fabric or a belt. Rather it is a cloth covering for a cylinder. It is the drum that is supporting the non-woven web (see also claim 1 of Noelle: "producing a fibrous web...subjecting the moistened and compressed web to a bonding treatment by means of water jets acting at least against one of its faces, **the web being supported by a rotary drum....**")  
Emphasis added.

As an example of what an ordinarily skilled artisan would understand as a **support fabric** for a hydroentangling apparatus, Figure 3 item 12 of the present application shows that the support fabric itself supports the web:

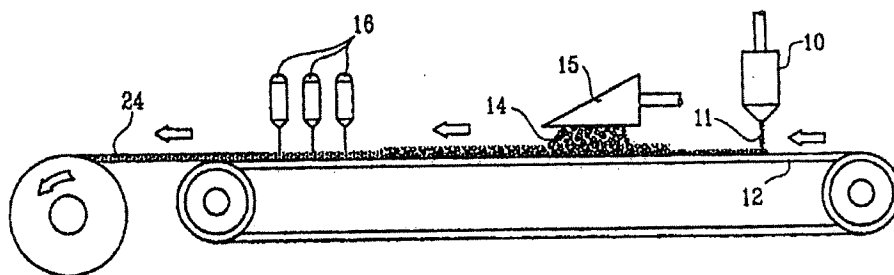


FIG. 3

And as explained in paragraph [0026] of the present application: “ The hydroentangling support fabrics of the present invention may be applied in a hydroentangling system such as that shown in FIG. 3 , which is described in detail in U.S. Pat. No. 6,163,943 as FIG. 1, at column 2, line 25 to column 4, line 3. When employed in a system such as that shown in FIG. 3, **the fabric of the invention would be formed into a continuous belt** and the belt would take the place of wire 12.” Emphasis added.

Thus an ordinarily skilled artisan would not regard a hydroentangling support fabric to be Noelle’s fabric covering for a cylinder, even under the broadest reading of that term, as Noelle’s fabric serves no support function.

For these reasons, the rejection over Noelle fails under §§ 102 and 103. Applicants thus suggest requesting reconsideration and withdrawal of the rejections on this basis.

#### V. THE CLAIMS ARE PATENTABLE OVER GASSIER

The Office Action rejects claims 23, 25-27, 31-32, 35 and 36 under §102, or in the alternative, under §103, over Gassier. Claim 23 recites:

An improved hydroentangling support fabric in a  
**hydroentangling apparatus** for production of a



hydroentangled nonwoven product, the improvement comprising:

**said hydroentangling support fabric in the hydroentangling apparatus having the mechanical properties and structural strength to reflect liquid jetted from the hydroentangling apparatus and comprising flat filaments, wherein said support fabric is in a continuous loop or made endless.”**

The claim requires: An improved hydroentangling support fabric **in a hydroentangling apparatus ...said hydroentangling support fabric in the hydroentangling apparatus.”** As discussed throughout the prosecution history, Gassier discloses a dryer fabric for a papermaking machine. Thus at no point does Gassier disclose a hydroentangling support fabric **in a hydroentangling apparatus**. As Gassier lacks a recited feature of the claim, the reference fails to support a *prima facie* case under 102.

As for 103, first, as amply laid out in the prior responses, a dryer fabric for a papermaking machine has different structure than a hydroentangling fabric. This is shown not only by Gassier, but by the references with which the Office Action has attempted to combine Gassier throughout prosecution.

Moreover, the inclusion of “said hydroentangling support fabric in the hydroentangling apparatus” in the body of the claim from the preamble was done in part to clarify that the claimed fabric is indeed a hydroentangling support fabric, and also as the Office Action indicated during the last interview that such a recitation would bring the claim more in line with claim 1, which the in the prior interview in this case the Examiner and Supervisory Examiner suggested that if Applicants could cite evidence as to the advantages of the claimed flat filaments in hydroentangling support fabrics, Applicants would be “headed in the right direction.” The Office Action has not addressed this evidence, but has merely charged inherency, despite these showings. Applicants will

respectfully urge that Applicants have more than rebutted the charge that dryer fabrics necessarily and inherently have the same structure as hydroentangling fabrics.

To reiterate, for evidentiary support of the unexpected advantages of the claimed flat filaments in hydroentangling support fabrics, Applicants refer to the quoted specification from the prior response, which shows the many advantages of flat filaments in hydroentangling support fabrics over hydroentangling support fabrics without this structure, including:

- a weave thickness T' that is smaller than the thickness T, wherein T represents a thickness without said flat filaments;
- a weave of more resistant to water flow in a direction perpendicular or substantially perpendicular to the plane in which a plurality of CD monofilaments lie;
- structure that reduces entangling of fibers to the fabric surface;
- improved MD/CD tensile ratios as compared to a fabric without said flat filaments; and
- improved release of the fiber web from the hydroentangling fabric after entangling.

As discussed during the interview and in the prior response, in view of the many superior properties achieved by the flat filaments as compared to hydroentangling support fabrics without the flat filaments as evidenced by the specification, Applicants urge that this is an ample demonstration of the unexpected results of the claimed hydroentangling support fabric including flat filaments. See MPEP 716.02(a).

For these reasons, the rejection over Gassier fails under §§ 102 and 103.

Applicants thus request reconsideration and withdrawal of the rejections on this basis.

**VI. THE CLAIMS ARE PATENTABLE OVER ZLATKUS**

Claims 1-2, 4, 6, 13, 23, 25-27, 31, and 33-36 are rejected under §102 or §103 over Zlatkus. Zlatkus has no disclosure of flat filaments. Column 2, lines 32-52, column 3, lines 21-29, cited by the Office Action, states:

Turning to FIG. 1, a pictorial representation of the layering format necessary to practice the present invention illustrated by several examples. Two wood pulp fiber layers are shown on top of a foam layer utilizing either open or closed cell foam. In the diagrams, two layers of wood pulp tissue of 20 grams/m<sup>2</sup> were combined, although a single layer of 40 grams/m<sup>2</sup> provides the same or similar end products. **In example 2, flat wire 10 is utilized as a backing in the hydroentanglement process to provide a bearing surface for water jets 20 to work three separate constitute layers of the material.** In example 4, the same two layers of wood pulp fabric are utilized against a third layer of a suitable foam utilizing a **medium knuckle wire 12** as a bearing surface against which water jets 20 work the material for hydroentanglement. Good results have also been obtained by utilizing the same layering of material as shown in example 6 utilizing **high knuckle wire 14** to provide courser texturing of the final product. It is also possible to layer wood pulp fabric on either side of the center layer of suitable foam material as shown in example 8 against flat wire 16 to produce a useful composite.

The description contrasts “flat wire” backing as against “medium-knuckle wire” and “high-knuckle wire.” These descriptions, however, do not refer to the shape of the wire, but rather, to the configuration of the wire in the fabric. This is clear in Figure 1, as shown below:

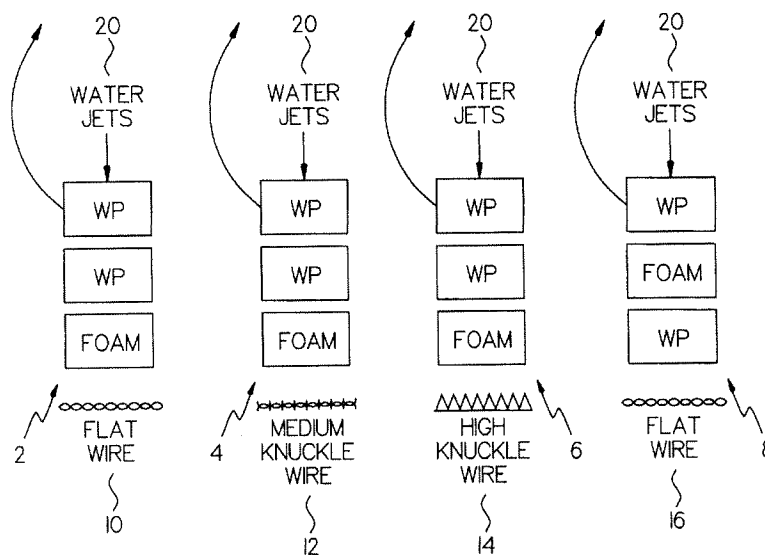


Fig. 1

As can be seen, the flat wire 10 has a substantially knuckle-free surface, or “flat” surface, as compared to the medium knuckles on the medium knuckle wire, and the high knuckles on the high knuckle wire. Thus the **“flat wire 10 is utilized as a backing in the hydroentanglement process to provide a bearing surface for water jets 20”** refers not to the shape of the wire itself, but refers to the bearing surface provided. A flat wire the name of the flat surface, the medium knuckle wire is the name of the surface with medium knuckles, and a high knuckle wire is the name of the surface with high knuckles.

As the Figures show, the flatness and the knuckle sizes are not a function of the shape of the wire filament itself, but rather, how the mesh of the wire is formed. The Examples of Zlatkus support this, as the Examples all refer to mesh stainless steel, and do not indicate that the wire should be anything but conventional round wire.

As such the reference fails to disclose a **“hydroentangling support fabric...comprising flat filaments,” as required by the claims. As Zlatkus lacks a**

**recited feature of the claim, the reference fails to support a *prima facie* case under 102.**

As for 103, first, as amply laid out and evidenced in the prior responses and above, the claimed flat filaments provide unexpected advantages over hydroentangling support fabrics without this structure. These advantages have not been addressed.

The Office Action cites column 3 lines 21-29 of Zlatkus which states:

It is believed by the inventor that by the utilization of open or closed cell foams in the hydroentanglement process, the embedded fibers from the fibrous layers are locked into the cell structure and are less easily dislodged due to a tortious path through the "z" direction, and the cell pour size reduction. **Modification of the backing wire as shown in FIG. 1 assist in producing different textures or patterns as might be desirable in different applications.**

As is clear, most of the paragraph refers to a foam. The sentence that refers to the backing wire has a very broad suggestion of modifying the backing wire to produce different patterns or textures. This does not, however, suggest the very specific advantages of flat wire or provide any motivation therefor. To the contrary, as Figure 1's variations of backing wire to produce different textures change the **configuration of the mesh or surface formed by the wire**. For example, Zlatkus states: "...as shown in example 6 utilizing **high knuckle wire 14 to provide courser texturing** of the final product." Col. 2, lines 49-50, cited above. Nothing in Zlatkus indicates that an ordinarily skilled artisan would or should use a different shaped filament, much less the claimed "flat filament" to effect such a modification.

**VII. THE CLAIMS ARE PATENTABLE OVER GASSIER IN VIEW OF STRANDQVIST**

Claims 1-2, 4, 6, 13, 23, 25-27, 31, and 33-36 are rejected under 35 U.S.C. §103 over Gassier in view of Strandqvist.

The Office Action again cites Strandqvist as evidence that Gaisser's dryer fabric, this time asserting that "Strandqvist discloses that it is known in the hydroentangling apparatus art to use a support fabric from a papermaking apparatus." This is an oversimplification of Strandqvist. Page 4, lines 7-11 of Strandqvist, cited by the Office Action, states:

The supporting member 12 which supports the fibre web during the hydroentanglement is constituted of a moulded, close-meshed plastic screen, for example the type disclosed in WO 92/1763 or in WO 98/35742, and which according to these documents is utilized as a **base material** for a **press felt** of a paper machine.

However an ordinarily skilled artisan would understand, consistent with the showing above, that Strandqvist shows they cannot. Page 4, lines 7-11 of Strandqvist, cited by the Office Action, states:

The supporting member 12 which supports the fibre web during the hydroentanglement is constituted of a moulded, close-meshed plastic screen, for example the type disclosed in WO 92/1763 or in WO 98/35742, and which according to these documents is utilized as a **base material** for a **press felt** of a paper machine.

Emphasis added. Thus Strandqvist's support member is used as a base material for a press felt on a papermaking machine. As amply explained in the prior responses, Gassier is a **dryer fabric** for a papermaking machine, **not a press felt**. Press felts and dryer fabrics are not interchangeable fabrics on papermaking machines.

Applicants also again note the Gaisser itself teaches away from using dryer fabrics as press felts. On press felts, Gaisser states at column 2, lines 23-29: “These **press felt base fabrics** are preferably woven endless. Due **to quite different objectives in designing these fabrics**, none of the designs show a structurally stable weave pattern and a projected open area in the range of thirty percent or more as in the case of the present invention.” Emphasis added. Thus not only are Gaisser’s dryer fabrics too different from press felts to ascribe any inherency on papermaking machines – much less for hydroentangling – but Gassier expressly teaches away from such a combination even within the context of papermaking.

Finally at page 11 the Office Action asserts the reason for the combination is that “it would have been obvious to use the support fabric of Gassier in a hydroentangling apparatus, motivated by a desire to construct a functioning hydroentangling apparatus.” The arguments and evidence of record show that even assuming for the sake of argument some areas of overlap, there are significant differences and structural requirements for different kinds of industrial fabrics, depending on the industrial machine upon which they are implemented. In the present case, the evidence shows that hydroentangling fabrics are not equivalent to dryer fabrics, much less “known equivalents.” As acknowledged by the Office Action at page 11, Strandqvist does not mention the use of rectangular filaments. Our prior responses presented arguments as to the structural differences between Gaisser’s papermaking dryer fabric and a hydroentangling support fabric. To review, hydroentangling and papermaking processes and devices have wholly different needs. For a non-limiting example that

highlights such difference, paragraph 31 of the publication of the Specification (hereafter the Specification) states:

The fabrics of the invention may be formed as single, double or triple layer weaves.... In such embodiment, the fibers of the nonwoven are supported by the round monofilaments of the forming side while the flat monofilaments promote greater reflective water flow, and therefore greater reflective entanglement energy, the fabric promotes greater entanglement of the fibers making up the nonwoven, and thereby provides for a stronger finished nonwoven. That is, when water is directed at the fabric in a direction perpendicular, or substantially perpendicular to the plane in which the flattened yarns lie, some water will pass through the forming surface layer and intermediate layer, reflect off the wearside layer, and further entangle the fibers. (Emphasis added)

Thus the design of the hydroentangling fabric requires, inter alia, permeability, and yet must **reflect** water from hydroentangling jets. All hydroentangling fabrics (1) have permeability and (2) reflect water at its surface and/or layers. Hydroentangling fabrics can comprise one or more layers, and may vary the areas for reflection and permeability, and indeed, one of the improvements of the present fabric with flat filaments is that it allows, in multi-layer fabrics, as explained above reflection at the wearside as well. But every fabric must have permeability and the structure to provide the appropriate reflective water flow to effect entanglement.

Gassier, on the other hand explains how its papermaking fabrics must have different structural qualities. At col. 3, lines 16-19, Gassier states:

A fabric having increased fabric stability in the machine direction is provided yet having a high degree of openness and permeability in a range **greater than thirty percent** of the total fabric area.

And at col. 4, lines 26-28:



The drying process is outwardly from the heated cylinders through the paper web and through the dryer fabric. Thus **sufficient permeability must be had in order to facilitate drying of the fabric.**

And at Col. 6, lines 8-11:

Increased structural stability is provided in the machine direction **without decrease in the permeability or open area** of the fabric.

And at Col. 1, lines 30-36:

For drying purposes, the carrier fabric must have **a high degree of openness and air permeability so that sufficient air is delivered through the base fabric and the embossed layer, which is also permeable for drying.** Carrier fabric must have sufficient load bearing capability for bearing the loads in the machine direction which are the most severe.

Thus, it is clear that Gassier's highly permeable dryer fabric is in no way designed for hydroentangling. Also, as explained during the prior interview and shown in the references, in hydroentangling, the non-woven web is dry when on the forming fabric; thus drying and pressing are not functions reasons for a combination in hydroentangling. In particular, increasing the surface area is contrary to the need for permeability, and there is no need for reflectivity in a dryer fabric. This evidence has not been addressed.

In order to advance prosecution, as suggested by the Examiner and Supervisory Examiner during the prior interview in this case, Applicants provided above the numerous advantages offered by the claimed flat filaments, which Applicants submit amply demonstrated the unexpected results of the claimed hydroentangling support fabric.

Applicants also noted that the differences between dryer fabrics and hydroentangling fabrics that the latter are typically less permeable than dryer fabrics, as amply demonstrated by the evidence of the prior responses. For example dryer fabrics generally have permeabilities on the order of 1000-1200cfm (see Gassier at col. 4, lines 50-54), whereas hydroentangling fabrics are less, with the embodiments of the present application described as being greater than 350cfm. Thus while there may putatively be some overlap between, for example, the permeabilities of such fabrics, in view of the other differing requirements of hydroentangling fabrics, such as reflection and entanglement, from dryer fabrics, Applicants again urge that the unexpected results of the claimed flat filaments evinced herein overcome any putative prima facie case under 102 or 103. See, inter alia, MPEP 2131.03:

In order to anticipate the claims, the claimed subject matter must be disclosed in the reference with "sufficient specificity to constitute an anticipation under the statute." What constitutes a "sufficient specificity" is fact dependent. If the claims are directed to a narrow range, and the reference teaches a broad range, depending on the other facts of the case, it may be reasonable to conclude that the narrow range is not disclosed with "sufficient specificity" to constitute an anticipation of the claims. See, e.g., *Atofina v. Great Lakes Chem. Corp.*, 441 F.3d 991, 999, 78 USPQ2d 1417, 1423 (Fed. Cir. 2006) wherein the court held that a reference temperature range of 100-500 degrees C did not describe the claimed range of 330-450 degrees C with sufficient specificity to be anticipatory; See MPEP 2144.05. "Applicant can rebut a presumption of obviousness based on a claimed invention that falls within a prior art range by showing "(1) [t]hat the prior art taught away from the claimed invention...or (2) that there are new and unexpected results relative to the prior art." *Iron Grip Barbell Co., Inc. v. USA Sports, Inc.*, 392 F.3d 1317, 1322, 73 USPQ2d 1225, 1228 (Fed. Cir. 2004)."

Thus the overwhelming evidence shows it was not, nor would it have been, "obvious to use the support fabric of Gassier in a hydroentangling apparatus, motivated by a desire to construct a functioning hydroentangling apparatus." For these reasons, none of which the Office Action acknowledged or weighed, the rejections on Gassier alone or Strandqvist in view of Gaiser fails under 103. Applicants thus respectfully request reconsideration and withdrawal of the rejections.

**VIII. THE CLAIMS ARE PATENTABLE OVER STRANDQVIST IN VIEW OF LEWIS**

Claims 1-2, 4, 6, 13, 23, 25-27, 31, and 33-36 are rejected under 103 over Strandqvist in view of Lewis.

As acknowledged by the Office Action at page 15, and throughout prosecution, Strandqvist does not mention the use of rectangular filaments. Lewis is a general teaching for a ribbon reinforced composite. The ribbons are shown as a substitute for fibers. See col. 1, lines 35-54 cited by the Office Action. Lewis fails to teach a flat filament. Lewis describes a polymeric composition/matrix which is reinforced with rectangular fibers – the ribbons. The reference is for forming ribbon-reinforced composites, not filaments, and not filaments for a fabric. Thus Lewis is wholly deficient for the claimed feature it is cited for.

As for the reason for combination, the Office Action proffers the substitution for the "round reinforcement filament shape of Strandqvist with the flat shape of Lewis motivated by the desire to provide substantial biaxial reinforcement to the polymeric screen." However, for the reason givens above, an ordinarily skilled artisan would not regard the ribbon as a substitution for Strandqvist's wire, as a wire reinforcement in a screen is not equivalent to a fiber in a polymeric matrix for a composite.

For these reasons, the rejection over Strandqvist over Lewis fails under §§ 102 and 103. Applicants thus request reconsideration and withdrawal of the rejections on this basis.

**IX. THE CLAIMS ARE PATENTABLE OVER GREENWAY IN VIEW OF EITHER NOELLE, ZLATKUS OR FAGERHOLM**

Claims 1-2, 4, 6, 13, 23, 25-27, 31, and 33-36 are rejected under §103 over Greenway in view of any one of Noelle, Zlatkus or Fagerholm.

As explained in detail in the prior responses, Greenway clearly discloses the use of round wires. Thus again, a person of ordinary skill in the art would not be motivated to combine the teachings of Gassier with that of Greenway merely because Greenway discloses a hydroentangling 'module.' Also, Table I disclosed in col. 5, lines 45-60 of Greenway and cited by the Office Action, shows the following specifications for its forming screen:

| TABLE I                       |                         |                         |
|-------------------------------|-------------------------|-------------------------|
| Forming Screen Specifications |                         |                         |
| Property                      | 36 × 29 flat            | 16 × 14 flat            |
| Warp wire - Polyester         | .0157                   | .032                    |
| Round                         |                         |                         |
| Shute wire - Polyester        | .0157                   | .035                    |
| Round                         |                         |                         |
| Weave type                    | plain mesh              | plain mesh              |
| Open area                     | 23.7%                   | 24.9%                   |
| Plane difference              | —                       | .008* ± .003            |
| Snag                          | light                   | none ± light            |
| Weave tightness (slay)        | no angular displacement | no angular displacement |
| Edges                         | filled ½"               | filled ½"               |
|                               | each side               | each side               |
| Seam                          | invisible/endless       | invisible/endless       |

Greenway also discloses that entangling member 44 in FIG. 4A, which is a 36x29 mesh weave having a 24% void area, is **fabricated of polyester warp and shute round wire**. (Greenway -- col. 5, lines 14-17). Therefore, Greenway discloses the use

of round wires for its forming screen and there is no reason for one skilled in the art to modify the forming wire of Greenway when there is clearly no reason in Greenway to use wires of other shapes.

The deficiencies of Noelle and Zlatkus are outlined above, and for the same reasons, do not cure Greenway's deficiency here. In particular, paragraph [0038] and Zlatkus as discussed above, teach reconfiguring the raised and recessed portions of a fabric to achieve various textures, and not using a flat filament as the Office Action suggests.

Fagerholm, like many of the previous references cited by the Office Action, teaches a fabric for a papermaking machine, and in particular, a dryer fabric. As explained and evidenced in the prior responses, the need for increased stability in higher degree of openness is not an issue in Greenway. Thus while there may putatively be some overlap between, for example, the permeabilities of dryer fabrics and hydroentangling fabrics, in view of the other differing requirements of hydroentangling fabrics, such as reflection and entanglement, from dryer fabrics, Applicants again urge that the unexpected results of the claimed flat filaments evinced herein overcome any putative *prima facie* case under 103. See MPEP 2144.05. "Applicant can rebut a presumption of obviousness based on a claimed invention that falls within a prior art range by showing "(1) [t]hat the prior art taught away from the claimed invention...or (2) that there are new and unexpected results relative to the prior art." *Iron Grip Barbell Co., Inc. v. USA Sports, Inc.*, 392 F.3d 1317, 1322, 73 USPQ2d 1225, 1228 (Fed. Cir. 2004)."

For these reasons, the rejection over Greenway in view of any one of Noelle, Zlatkus or Fagerholm fails under § 103. Applicants thus suggest request reconsideration and withdrawal of the rejections on this basis.

**X. THE CLAIMS ARE PATENTABLE OVER ELSENER IN VIEW OF ANY ONE OF SCHWARTZ, OR WHIGHT**

Claims 23, 25-27 and 31 were rejected under 35 USC § 103 (a) over Elsener in view of any one of Schwartz, or Whight. Applicants again traverse and request reconsideration and withdrawal of the rejections.

As the Office Action acknowledges, Elsener is a textile fabric for use in clinical areas or clean rooms. The towel is for drying hands and skin. Specifically, Elsener discloses an absorbent fabric material of synthetic endless fibers, in particular for use in clinical areas and also clean room areas and also in company and public washrooms (Elsener -- Abstract). Therefore, Elsener has absolutely nothing to do with endless or continuous industrial process fabrics whatsoever.

Schwartz relates to a towel apparatus which handles an endless towel within a cabinet and subjects the same to cleaning and drying making use of a low vapor pressure chemical type solvent. (Schwartz -- Abstract). Whight relates to a clean towel presenting machine, which includes an endless web of liquid absorbent material contained in a casing to discontinuously present a clean portion and simultaneously retract an essentially equal used portion through an intake slot, a cleaning liquid tank and a heater to dry and sterilize the web. (Whight -- Abstract).

In view of the extensive discussions of hydroentangling fabrics above and in prior responses, it almost goes without saying that an ordinarily skilled artisan would not look

to hand towels for teachings on industrial process belts. Similarly, the art is in no way analogous to hydroentangling fabrics.

The Office Action alleges the rejection is “fair” because of the Patent Office’s inability to manufacture products and make comparisons. Applicants have repeatedly referred to Exhibits A-C, submitted in the Amendment and Response dated April 3, 2009, which discuss, in general, the type of fabrics used in a hydroentangling process. Applicants referred in particular to, for example the photographs of Figures 5-8 of Exhibit A (showing magnified photographs of 10 – 100 mesh forming belts at 50 g/m<sup>2</sup> and 100 g/m<sup>2</sup> webs) and Figures 2a to 2c of Exhibit B (showing spunlace support wire). The Exhibits show that Elsener’s, Schwartz’s, and Whight’s hand drying towels are not hydroentangling support fabrics and such towels could in no way be used a hydroentangling fabric.

Applicants also amended the claims to recite that the fabric includes “the mechanical properties and structural strength to reflect liquid from the hydroentangling apparatus.” As proof as to what an ordinarily skilled artisan would understand about such mechanical properties and structural strength, Applicants again refer to column 2 lines 25 to column 4, line 3 of U.S. Patent 6,163,943 (the ‘943 patent”), incorporated by reference at paragraph 12 of the published application. The ‘943 patent turn refers to CA patent no 841,938 (see ‘943 patent at col. 3, lines 54-56). Applicants also submitted U.S. 4,967,456. The evidence shows that hydroentangling apparatuses “jetting water supplied at pressures of 200 to 2000 pounds per square inch (psi).” CA 841,938. (See also US 4,967,456: “First and second stage enhancement is preferably effected by columnar fluid jets which impact the fabric at pressures within the range of 200 to 3000

psi and impart a total energy to the fabric of approximately 0.10 to 2.0 hp-hr/lb.” ) Hand towels and the like cannot stand up to such pressures.

The Office Action has ignored all this evidence, save at page 23, where the Office Action proffers that Applicants have failed to provide evidence that a hand towel cannot reflect columnar fluid jets which impact the fabric at pressures within the range of 200 to 2000/3000 psi and impart a total energy to the fabric of approximately 0.10 to 2.0 hp-hr/lb, while at the same time maintaining that any attempt to incorporate such features into the claims would render them indefinite. Applicants have already shown in detail that these properties are inherent to hydroentangling fabrics, and that the specification incorporates the references showing this into its disclosure – although this is not necessary for support. It is unreasonable to require that Applicants prove that utterly non-analogous art – hand towels – renders any aspect of a hydrogenating fabric for a hydroentangling apparatus obvious, especially when the Office Action has given no reason for such an assertion except that hand towels are “substantially identical,” or that “it is within the general skill of a worker in the art to select a known shape on the basis of its suitability and desired characteristics.” See pages 21-22 of the Office Action.

It is well established that non-analogous art cannot be considered pertinent prior art under § 103 and therefore cannot be relied upon as a “basis for rejection of an applicant's invention.” See M.P.E.P. § 2141.01(a) (quoting *In re Oetiker*, 977 F.2d 1443, 1446 (Fed. Cir. 1992)). The determination as to whether a reference is analogous art is two fold. First, it must be decided if the reference is within the field of the inventor's endeavor. If it is not, it must then be determined whether the reference is



"reasonably pertinent to the particular problem with which the inventor was concerned."

*In re Oetiker*, 977 F.2d at 1446. The Federal Circuit has held: "A reference is reasonably pertinent if, even though it may be in a different field from that of the inventor's endeavor, it is one which, because of the matter with which it deals, logically would have commended itself to an inventor's attention in considering his problem." *In re Clay*, 966 F.2d 656, 659 (Fed. Cir. 1992).

In the present case, the Elsener, Schwartz, and Whight references do not satisfy the above well-established test of a reference falling into the category of analogous art. Moreover, it is clear that the matters with which Elsener, Schwartz, and Whight deal would not logically have commended themselves to the instant inventors' attention in considering any problem to be solved for hydroentangling fabrics, much less those that the present inventor's were focused on. As such, this rejection should be withdrawn as well.

As nothing in the art of record cures the deficiencies as against the independent claims, Applicants urge these claims are in condition for allowance, and respectfully request reconsideration and withdrawal of the rejections in the present case.

#### **XI. DEPENDENT CLAIMS**

As nothing in the cited art of record cures the deficiencies of the art as applied to independent claims 1 and 23, Applicants respectfully request reconsideration and withdrawal of the rejections.

#### **CONCLUSION**

In view of the foregoing amendments and remarks, all of the claims in this application are patentable over the prior art, and early and favorable consideration thereof is solicited.

In the event that the Examiner disagrees with any of the foregoing comments concerning the disclosures in the cited prior art, it is requested that the Examiner indicate where in the reference, there is the basis for a contrary view.

Please charge any fees incurred by reason of this response and not paid herewith to Deposit Account No. 50-0320.

If any issues remain, or if the Examiner has any further suggestions, the Examiner is invited to call the undersigned at the telephone number provided below. The Examiner's consideration of this matter is gratefully acknowledged.

Respectfully submitted,  
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